WHAT IS CLAIMED IS:

1. A ceramic layered product comprising:

a plurality of ceramic layers including a metallic element; and

a plurality of metal layers, each of which is arranged between the ceramic layers,

wherein the metal layers include at least one element selected from the group consisting of Ni, Cu, Ag, and Pd in a total content of not less than 50 atm% as a main component, and at least one element selected from the metallic elements of the ceramic layers in a content of not less than 1 atm% and less than 50 atm% as an additive component.

2. The ceramic layered product according to claim 1, wherein each of the metal layers includes Ni in a content of not less than 50 atm%.

3. The ceramic layered product according to claim 1, wherein the metallic element included in the ceramic layers is Ba or Ti.

4. The ceramic layered product according to claim 1, wherein a content of the additive component increases as it is closer to at least one surface of each of the metal layers.

5. The ceramic layered product according to claim 1, wherein a content of the additive component increases as it is closer to both surfaces of each of the metal layers.

6. The ceramic layered product according to claim 1, wherein the metal layers have a thickness of 0.1 μm to 2 μm.

7. The ceramic layered product according to claim 1, wherein crystal grains of the metal layers form a columnar structure oriented in a thickness direction.

8. The ceramic layered product according to claim 1, wherein a grain size of the metal layers is not less than 0.1 μm.

9. The ceramic layered product according to claim 1, wherein a packing

factor of the metal layers is not less than 70%.

10. The ceramic layered product according to claim 1, wherein the metal layers include acicular particles.

11. The ceramic layered product according to claim 10, wherein the acicular particles include a metal that forms a hexagonal lattice.

12. The ceramic layered product according to claim 10, wherein the acicular particles include Ti.

13. The ceramic layered product according to claim 10, wherein a length of the acicular particles is longer than a thickness of the metal layers.

14. The ceramic layered product according to claim 10, wherein a length of the acicular particles in a longitudinal direction is at least two times as long as a dimension in a direction perpendicular to the longitudinal direction.

15. The ceramic layered product according to claim 10, wherein the metal layers further include granular particles connected to the acicular particles.

16. A method for manufacturing a ceramic layered product comprising:

forming a metal layer by a solventless process; and

stacking a plurality of ceramic green sheets, each of which is provided with the metal layer,

wherein the ceramic green sheets include a metallic element, and

the metal layer includes at least one element selected from the group consisting of Ni, Cu, Ag, and Pd in a total content of not less than 50 atm% as a main component, and at least one element selected from the metallic elements of the ceramic green sheets in a content of not less than 1 atm% and less than 50 atm% as an additive component.

17. The method according to claim 16, further comprising:

transferring the metal layer formed on a supporting film onto a ceramic green sheet so that the ceramic green sheet is provided with the metal layer.

18. The method according to claim 16, wherein the solventless process is multisource evaporation, multisource sputtering, or alloy sputtering.

19. The method according to claim 18, wherein the metal layer is formed in an atmosphere containing oxygen.

20. The method according to claim 16, wherein the metal layer is formed so that a content of the additive component increases as it is closer to at least one surface of the metal layer.

21. The method according to claim 16, wherein the metal layer is formed so that a content of the additive component increases as it is closer to both surfaces of the metal layer.

22. The method according to claim 16, wherein a thin film formation source including the additive component and a thin film formation source including the main component are located respectively on an upstream side and a downstream side of a traveling supporting film, and

a metal layer including the additive component and the main component is formed on the supporting film by multisource evaporation or multisource sputtering.

23. The method according to claim 22, wherein a thin film formation source including the additive component further is located on a downstream side of the traveling supporting film from the thin film formation source including the main component.